MODIS TECHNICAL TEAM MEETING

September 6, 1996

The MODIS Technical Team Meeting was chaired by Robert Murphy. Present were Locke Stuart, David Herring, Steve Ungar, Harry Montgomery, Ed Masuoka, Richard Weber, Dorothy Hall, Bruce Guenther, Al Fleig, Chris Justice, Eric Vermote, and Wayne Esaias.

1.0 SCHEDULE OF EVENTS

Aug. 16	**Revised ATBDs due to the EOS Project Science Office**
Aug. 16	**Validation Summary Plans due**
Sept. 18 - 19	MODIS Quarterly Management Review at GSFC
Oct. 10 - 11	MODIS Science Team Meeting at U. of Maryland University College Conference Center
Oct. 15	EOS Science Software Review
Oct. 17 - 18	SWAMP Meeting

2.0 MINUTES OF THE MEETING

2.1 MODIS Project Reports

Weber announced that the site of the MODIS Quarterly Management Review (QMR), scheduled for Sept. 18-19, has been moved to GSFC. At that meeting, the SBRS test program will be discussed extensively. Those MODIS Team members with concerns about the testing program are particularly invited and encouraged to attend. Guenther stated that in the week following the QMR, MCST will host a more in-depth discussion on the SBRS testing program. He plans to invite Justice, Otis Brown, Peter Minnett, and Howard Gordon to that meeting.

Weber reported that progress is being made in repairing the MODIS PFM (protoflight model) electronics. SBRS has now changed the resistors in the Space-viewing Analog Module (SAM), and is now preparing to do thermal tests on that unit. Additionally, the Forward-viewing Analog Module (FAM) and Main Electronic Module (MEM) are also being prepared for thermal tests. Weber said SBRS hopes to have all of these subsystems integrated into the instrument within two to three weeks. He stated that each half of the digital electronics will be tested while the other half is in the process of replacing the bad resistor networks, which will save about a month of the testing schedule.

Weber announced that thermal vacuum testing is still tentatively scheduled for December 1996Ñthere will be no early thermal vacuum tests. Murphy asked what is the shipping date for the MODIS PFM. Weber responded early February 1997. Murphy reported that he and Vince Salomonson attended a recent meeting

with Aram Mika and Art Apolotano, both of Hughes, to discuss the Science TeamÕs concerns over the testing and characterization of MODIS. According to Murphy, Hughes assures NASA that they will deliver MODIS in early February, and they intend to fully test and characterize the instrument.

2.2 MCST Status Reports

Guenther announced that he traveled last week to the University of Wisconsin-Madison to conduct a workshop on the MODIS infrared algorithm, and earlier today he conducted a workshop on the reflected solar algorithm at Level 1B. During the infrared workshop, Paul Menzel and Peter Minnett pointed out that there is a need for information on atmospheric absorption constituents in the calibration path when calibration data are being taken so that it will be possible to validate the absorption features of water and carbon dioxide in those measurements.

Guenther reported that there have been some discussions with SBRS regarding the scatter and crosstalk from Band 31 into Bands 33 - 36. He said there is some risk to the instrument if SBRS must go inside it to fix those bands because that involves taking off and opening up the radiative cooler. According to Guenther, since there is moderate risk, Paul Menzel conceded that he may be able Òto live withÓ the scatter and crosstalk for those bands if we know how much of the crosstalk is spectral and how much is spatial. In short, if the crosstalk is well characterized, Menzel can still use those data; if the crosstalk isnÕt well characterized, he cannot use those data and, therefore, Guenther recommends that SBRS fix those bands. One reason Menzel is uncertain he can live with this crosstalk is that the ÒsenderÓ band is a warm surface band, and the ÒreceiverÓ bands are cold atmosphere bands.

2.2.1 MCST Computing Resources

Guenther told the team that MCST has identified image restoration as a special data product. MCST is preparing to implement image restoration studies during the first year after launch and they have scoped the effort. Computer resources must now be defined and worked into the overall MODIS Computing Plan.

2.2.2 Near Infrared Audit

Guenther reported that the NIR audit produced a recommendation to immediately exchange the E-2 near infrared optical element from its current zinc solenoid to an SF-11 substrate. Guenther believes that the resulting improvement in scatter is worth the effort.

Additionally, the recommendation was made that the EOS Project Office develop an improved beamsplitter #1, which has polarization characteristics similar to those we saw for the OCLI (Optical Coatings Laboratory Inc.) beamsplitter, but with scattering characteristics similar to those we have with the OFC (Optical Filter Corp.) beamsplitter.

Guenther requested that the MODIS Project Office add time on the QMR agenda for a review of SBRSÕ MODIS test data. This review would include an SBRS briefing on their characterization of the polarization scatter assembly. Weber reminded the team that SBRS has submitted a report on the subject, entitled ÒMODIS GSE Optics PSA Acceptance TestÓ (See the ÒRecent MODIS DocumentsÓ section at the end of these minutes). Herring pointed out that this document is available in the restricted access partition of MODARCH.

2.2.3 MCST Software Delivery Schedule

Guenther told the team that given its extensive preparations for this series of team audits, MCST now feels that its software delivery schedule is very challenging. He stated that the biggest issue is delivering its final flight code in February 1998. Given that the final testing done by SBRS is slipping into February 1997, Guenther proffered that it now looks challenging for MCST to meet the delivery deadlines set by SDST, so that it can meet its DAAC delivery deadline of February 1998.

2.3 SDST Status Reports

Masuoka announced that he sent around a memo to the MODIS Team regarding the four-month slip in Release A. Unfortunately, no new schedule dates have yet been established, but this issue will be resolved by ESDIS and ECS. They are currently working to define incrementals for Release A and B. Masuoka said he told the ESDIS Project that he would like to define elements of the software critical to MODIS in Release B.

Masuoka reported that a memo from the ESDIS Project and the ECS contractor detailing the hardware and software that would need to be provided to NSIDC and EDC to support MODIS Version 1 testing was due out last Tuesday. (It never came out so Masuoka sent around his version of the draft memo to all parties on 9/24.)

Masuoka reminded the team that the EOS AM Project Science Software Review (SRR) is scheduled for Oct. 15. He would like to give a dry run of his presentation to Science Team members to help prepare for that meeting on Oct. 1 at 10 a.m. in Building 22, room C95.

2.3.1 MODIS-DAO Interaction

Fleig reported that he spoke recently with Richard Rood, head of the Data Assimilation Office, Code 910.3, about coordination between the MODIS team and the Data Assimilation Office (DAO). Fleig said that Rood is concerned that his team spent months developing the capability to interpolate data that the MODIS team doesnÕt need interpolated. Rood is also concerned that the MODIS team only wants DAO data if it is delivered in hierarchical data format (HDF). Fleig wrote an in-depth summary of his discussion with Rood, included at the end of these minutes as Attachment 2.

2.3.2 EOS Spacecraft Center of Mass

Fleig announced that in response to Barbara PutneyÕs interest in and pursuit of the capability to track the location of the center of mass of the EOS spacecraft, Paul Westmeyer stated that the flight dynamics facility will agree to post process tracking data for the EOS platform, and provide information of where the platform is to within 5 to 10 meters. There may be a lag of 1 day in obtaining these data, but Fleig is very pleased with PutneyÕs efforts and WestmeyerÕs response.

2.3.3 Geolocation Workshop

Fleig reminded the team that there will be a Geolocation Workshop on Tuesday, Oct. 8, concurrent to the MCST Calibration Workshop. Fleig requested Weber to invite someone from Lockheed-Martin to attend the Geolocation Workshop and deliver a presentation on tracking capabilities. He also requested that each discipline group have a representative attend the workshop.

3.0 ACTION ITEMS

3.1 New Action Items

1. *Masuoka*: Revise overall MODIS Science Computing Facility Plan to take into account requirements for image restoration and other MCST Level 1B activities as well as Science Advisory Panel suggestions for post-launch production, networking and distributed computing at the SCFs. Meet with Bruce Guenther to review MCST plan and incorporate in overall MODIS SCF plan.
2. *Weber*: Invite someone from Lockheed-Martin to attend the Geolocation Workshop on Oct. 8 and deliver a presentation on tracking capabilities.

4.0 ATTACHMENTS

NOTE: All attachments referenced below are maintained in MODARCH and are available for distribution upon request. Please contact David Herring, MAST Technical Manager, at (301) 286-9515, Code 920, NASA/Goddard Space Flight Center, Greenbelt, MD 20771 if you desire copies of any attachments.

1. ÒMODIS and DAO CoordinationÓ, by Al Fleig

5.0 RECENT MODIS DOCUMENTS

Note: All recent MODIS documents are maintained in MODARCH. If you would like access to or information about MODARCH, please contact the MODARCH System Administrator, Michael Heney, at (301) 286-4044 or via e-mail at mheney@ltpmail.gsfc.nasa.gov.

1. ÒMODIS GSE Optics PSA Acceptance TestÓ, by SBRS